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A NEW SPECIES OF PIKEBLENNY (PISCES: CHAENOPSIDAE: *CHAENOPSIS*) FROM THE WESTERN ATLANTIC

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Abstract.—*Chaenopsis roseola* is described from the middle shelf region of the northeastern Gulf of Mexico. It is distinguished from its closest known congener in the western Atlantic, *C. stephensi,* on the basis of pigmentation pattern, morphometrics, and palatine tooth pattern. The relationship of the forms is discussed, but the status of a specimen from off Yucatan, previously assigned to *C. stephensi,* is unresolved. The habitat of *C. roseola,* as observed from a research submersible, consists of "windrows" of shell rubble.

The blennioid genus *Chaenopsis* (Pisces: Chaenopsidae) has been divided into two species groups based on body length, number of fin-ray elements, and number of body blotches or bands (Böhlke, 1957b). In the western Atlantic *Chaenopsis ocellata, C. resh,* and *C. limbaughi* compose the long-bodied, high-count (or *ocellata*) group while the short-bodied (or *coheni*) group has been represented by only *C. stephensi* Robins and Randall (1965).

Recent baseline studies of fishes of the continental shelf of the northeastern Gulf of Mexico using semi-balloon trawls with fine mesh (9.5 mm) liners and Capetown dredges with inner baskets of 6.4 mm mesh have been especially productive in capturing previously unknown or poorly known small, cryptic fish species. Among these is a new species of short-bodied *Chaenopsis* which is herein described.

Methods and Materials

Methods of taking measurements follow Hubbs and Lagler (1964) except for eye diameter for which we measured the pigmented eye as described by Böhlke (1957a). All measurements from snout include the upper lip. Interorbit equals least bony interorbital width. Pectoral fin length equals length of the longest ray. MP index equals 10× distance between mandibular pores 3 and 2 divided by the distance between mandibular pores 1 and 2 (Robins and Randall, 1965). All measurements were made with dial calipers except snout length, eye diameter, interorbit, upper jaw, distance between mandibular pores, caudal peduncle depth, and caudal peduncle length which were measured with an ocular micrometer on a Wild M5® stereoscope. Fin-ray counts of median fins were made from X-rays as these counts were

Fig. 1. Holotype of *Chaenopsis roseola*, USNM 221167. Anterior dorsal fin is depressed.

difficult to take directly from specimens. Head pore terminology follows Johnson and Greenfield (1976). Abbreviations of institutions cited are as follows: ANSP, Academy of Natural Sciences of Philadelphia; FMNH, Field Museum of Natural History, Chicago; FSBC, Florida Department of Natural Resources; GCRL, Gulf Coast Research Laboratory Museum; LACM, Los Angeles County Museum; UAIC, University of Alabama Ichthyological Collection; UF, Florida State Museum, University of Florida; UMML, University of Miami, Rosenstiel School of Marine and Atmospheric Sciences; USAIC, University of South Alabama Ichthyological Collection; USNM, United States National Museum of Natural History.

Chaenopsis roseola, new species
Flecked pikeblenny
Figs. 1–3

Chaenopsis ocellatus (in part). Springer and Woodburn 1960, p. 77. USNM 134923, two specimens.

Holotype.—USNM 221167 (originally USAIC 03661), 42.2 mm SL, male. 30°07′N, 86°45′W, northeastern Gulf of Mexico, about 35 km SSW of Ft. Walton Beach, Florida, 19 March 1977, 55 m. Collected with a semi-balloon trawl from a bottom of coarse shell rubble.

Paratypes.—USNM 221168 (3 specimens, 35.1–36.2 mm SL), collected with the holotype. GCRL 16893 (1, 42.7), 30°10′N, 86°50′W, about 35 km SSW of Ft. Walton Beach, FL, 22 May 1976, 53 m. GCRL 16894 (1, 28.4), 29°55′48″N, 86°06′36″W, about 40 km SW of Panama City Beach, FL, 6 Sept. 1977, 37 m. ANSP 143748 (1, 36.3) 30°09′30″N, 86°50′30″W, about 35 km SSW of Ft. Walton Beach, FL, 30 Aug. 1976, 55 m. ANSP 143749 (1, 31.5), 29°50′N, 86°06.5′W, about 30 km SW of Panama City Beach, FL, 20 July 1975, 41 m. UF 27444 (1, 41.0), 29°48′00″N, 86°03′30″W, about 40 km SW of Panama City Beach, FL, 4 June 1974, 40 m. UF 27445 (1, 29.9), 28°19′00″N, 84°21′00″W, about 60 km SSE of Apalachicola, FL (Florida Middle Grounds), 18 June 1974, 50 m. LACM 38701-1 (1, 34.8), 29°55′48″N, 86°06′36″W, about 40 km SW of Panama City Beach, FL, 6 Sept. 1977, 37

Table 1.—Frequency of counts for western Atlantic short-bodied *Chaenopsis*. All counts (except pectoral rays) for *C. roseola* include the holotype, seven paratypes, and two non-type specimens (USNM 134923). Pectoral fin ray counts include only the type material in which accurate counts could be made. * = holotype.

	Dorsal fin										
	Spines		Rays					Total elements			
	17	18	26	27	28	29	30	44	45	46	47
C. roseola	6	4*	3*	3	4			5*	5		
C. stephensi (LACM 20157)	1				1				1		
C. sp. (UMML 28601)	1						1				1

	Anal fin rays			Pectoral fin rays			Vertebrae				
	29	30	31	12	13	14	48	49	50	51	52
C. roseola	4*	6		5*	8*	1	1	9*			
C. stephensi (LACM 20157)		1			2			1			
C. sp. (UMML 28601)			1		2						1

m. FMNH 83918 (1, 30.5), 29°55′48″N, 86°06′36″W, about 40 km SW of Panama City Beach, FL, 6 Sept. 1977, 37 m. UAIC 5948.01 (1, 28.6), 29°55′48″N, 86°06′36″W, about 40 km SW of Panama City Beach, FL, 6 Sept. 1977, 37 m. USAIC 06271 (1, 30.0), 29°55′48″N, 86°06′36″W, about 40 km SW of Panama City Beach, FL, 6 Sept. 1977, 37 m.

Diagnosis.—A short-bodied species of *Chaenopsis* with relatively few vertebrae (48–49), few dorsal fin elements (XVII–XVIII, 26–28; 44–45 total) and few anal fin elements (II, 29–30). Eight black blotches present along the side, first through sixth typically inverted triangles, seventh and eighth horizontally elongate blotches. Flecks of rusty or pink pigment scattered over entire body with two or three prominent (though variable in shape) flecks on cheek. Dorsal fin low in both sexes. Males with a black blotch on dorsal fin membranes between spines I and IV. Palatine teeth in one row, those in anterior section of row moderate in size (none noticeably enlarged), those in posterior section small.

Description.—Vertebral and fin-ray counts are given in Table 1. Sixteen precaudal and 32–33 caudal vertebrae. Dorsal fin low in both sexes (Fig. 2), composed of XVII–XVIII spines and 26–28 unbranched rays (44–45 total elements). Anal fin with two closely spaced spines and 29–30 unbranched rays. Pectoral fin rounded, composed of 12–14 unbranched rays. Pelvic fin I, 3; first and second rays elongate, third short and inconspicuous (about as long as pelvic spine). Body proportions are given in Table 2.

Snout bluntly V-shaped when viewed from above, i.e., lateral edges converge from the posterior nostril forward (Fig. 3). Forehead sloping when viewed from side (Figs. 1, 3). Lower jaw projecting slightly, visible from

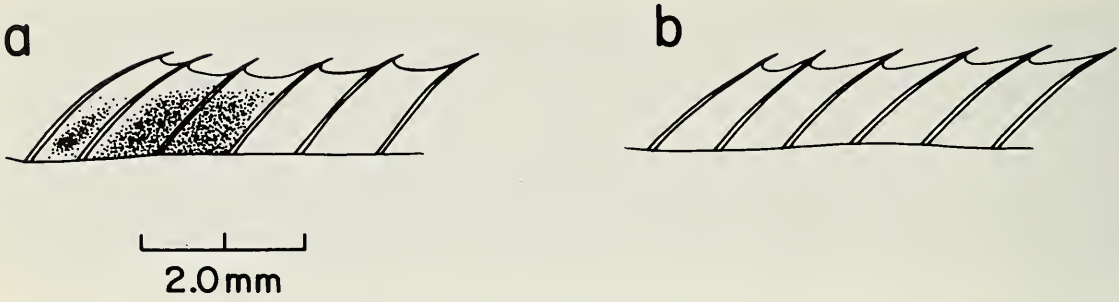

Fig. 2. Anterior dorsal fins of a) male (USNM 221167, holotype) and b) female (USNM 221168, paratype) of *Chaenopsis roseola*.

above. Dewlap on lower jaw extending to the anterior edge of orbit. Anterior nostril tubular, slightly shorter in length than maximum width of bony interorbit. Posterior nostril with a raised rim. Tongue long, slender, coming to a rounded point. Tip of tongue extends past vomerine tooth patch which is anterior to origin of palatine tooth row.

Outer tooth row of upper jaw bluntly U-shaped, composed of canines anteriorly and laterally. Teeth largest at corner of snout and decreasing in size posteriorly (ANSP 143748 with 5 canines across the left side of the front of the snout, followed by 19 teeth in the lateral series). Two to 4 irregular rows of fine pointed teeth behind the outer row on anterior part of mouth, extending in a wedge from mid-line outward and backward to the fourth tooth of the lateral series. Palatine teeth 17–18, in a single row originating near the thirteenth or fourteenth tooth of lateral series; anterior teeth in row moderate in size and pointed (7 in ANSP 143748) followed by a series of small teeth (10 in ANSP 143748). A few minute teeth on the vomer (3 in ANSP 143748). Outer tooth row of lower jaw bluntly U-shaped, composed of canines anteriorly (4 across the left of the front in ANSP 143748), with lateral series of teeth composed of canines anteriorly grading to low rounded teeth posteriorly (ANSP 143748 with 5 lateral canines, followed by 12 close-set moderate, pointed teeth, followed by 12 smaller close-set teeth, those in posterior part of latter section low and rounded). Teeth behind outer row similar to those in upper jaw. Two to 4 irregular rows of low pointed teeth in a wedge extending from middle of jaw back to fifth lateral canine.

Head pores are illustrated in Fig. 3: Nasal, 1 pair; anterofrontal, 1 pair; infraorbital, 5 pairs; supraorbital, 3 pairs; commissural, 1 median; supratemporal, 1 median + 1 pair; posttemporal, 4 pairs; preopercular, 5 pairs; mandibular, 4 pairs.

Color description.—Holotype, USNM 221167, 42.2 mm SL, male (Fig. 1); notes taken shortly after preservation in formalin and transfer to 45% isopropyl alcohol. Background color straw. Body with 8 black blotches along flank, extending ventrad from midline. First located over middle of

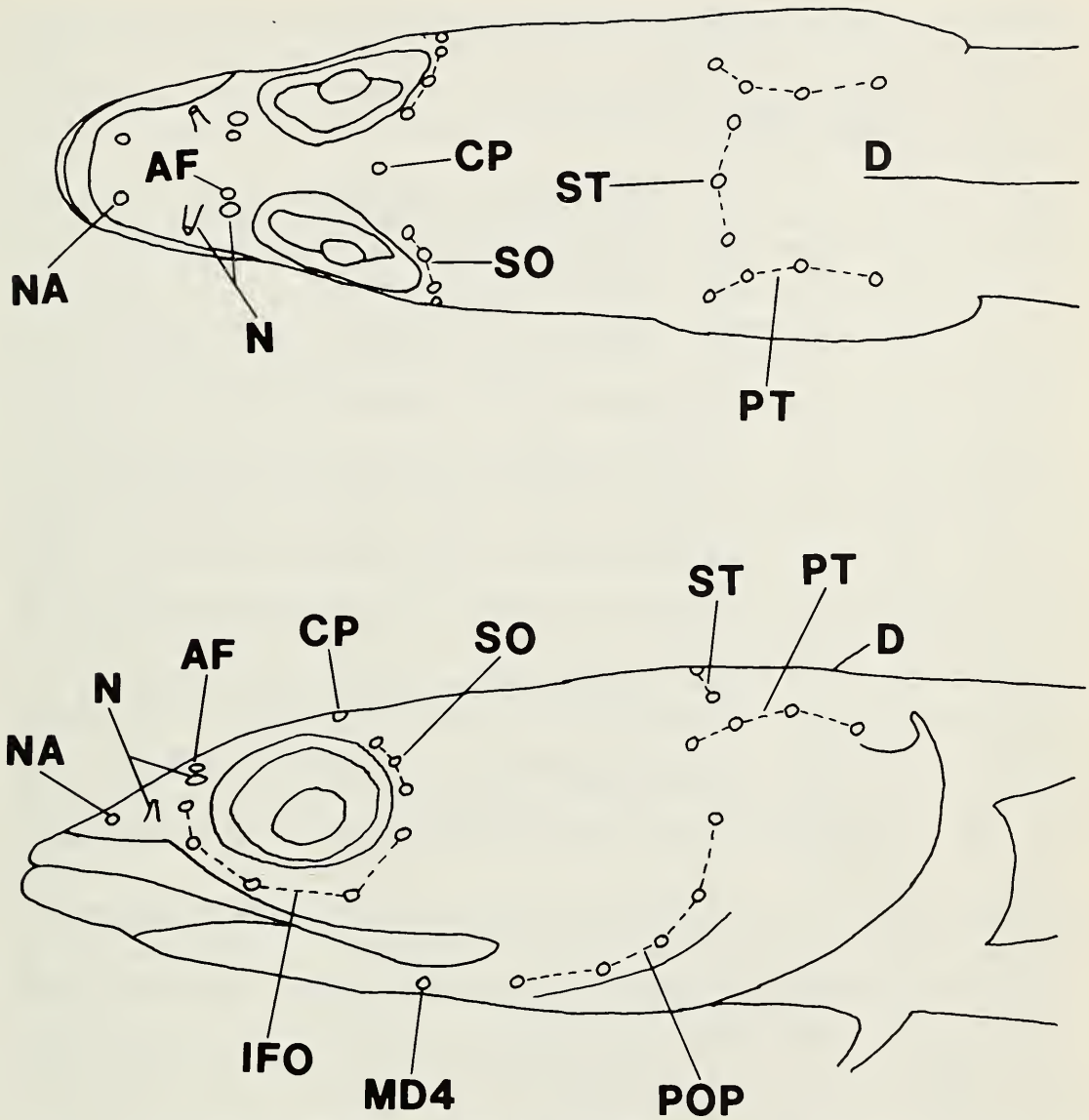

Fig. 3. Semi-diagrammatic drawing of the head-pore pattern of *Chaenopsis roseola* (UF 27444). Pores are enlarged to illustrate their positions. Pores within a series are connected by a dashed line. **N** = nostrils, **NA** = nasal, **AF** = anterofrontal, **CP** = commissural, **SO** = supraorbital, **IFO** = infraorbital, **MD4** = fourth mandibular, **POP** = preopercular, **PT** = posttemporal, **ST** = supratemporal, **D** = dorsal fin origin.

belly, last on caudal peduncle. On left side, blotches 1–3 and 5–6 inverted triangles, 4 more rectangular, 7–8 horizontally elongate; blotches 1 and 2 each with 2 pink flecks within triangles. On right side, 1–6 inverted triangles, 7–8 horizontally elongate; blotches 1, 2, and 4 with pink flecks within triangles. Blotches 1–7 each with 2 rows of melanophore clusters (forming saddles) extending upward and across dorsum. A saddle also present anterior to the pectoral fin bases and concentrations of melanophores present

Table 2.—Morphometrics of western Atlantic short-bodied *Chaenopsis*. *Chaenopsis roseola*: 1 = GCRL 16893; 2 = USNM 221167; 3 = UF 27444; 4 = ANSP 143748; 5, 6, 7 = USNM 221168; 8 = LACM 38701-1; 9 = ANSP 143749; 10 = FMNH 83918; 11 = USAIC 06271; 12 = UF 27445; 13 = UAIC 5948.01; 14 = GCRL 16894. * = holotype. Head length through upper jaw expressed as thousandths of the standard length. MP = mandibular pore index. M = male. F = female.

Species	*Chaenopsis roseola*																*Chaenopsis stephensi*	*Chaenopsis* sp.
Specimen	1	2*	3	4	5	6	7	8	9	10	11	12	13	14	Mean	(Range)	Holotype LACM 20157	UMML 28601
SL (mm)	42.7	42.2	41.0	36.3	36.2	36.0	35.1	34.8	31.5	30.5	30.0	29.9	28.6	28.4			44.8	49.9
Head length	253	258	249	253	240	225	245	241	238	243	243	258	245	243	245	(225–258)	259	212
Predorsal length	213	211	207	218	204	192	214	197	206	200	207	217	206	211	207	(192–218)	230	186
Preanal length	466	486	485	496	500	492	479	477	492	430	483	475	483	444	476	(430–500)	487	465
Depth at D_1 origin	91	100	88	88	83	97	97	86	92	85	80	90	84	85	89	(80–100)	87	76
Depth at A_1 origin	75	81	78	69	75	78	74	78	76	72	67	77	70	70	74	(69–81)	78	72
Caudal ped. depth	50	47	47	47	46	46	48	49	55	49	54	50	54	47	49	(46–55)	40	40
Caudal ped. length	42	48	40	39	39	46	37	45	46	48	46	45	42	44	43	(37–48)	36	24
P_1 fin length	115	133	132	116	122	133	140	121	121	125	137	137	133	123	128	(115–140)	116	132
P_2 fin ray 1	103	114	129	124	127	122	—	118	133	134	133	134	133	127	125	(103–134)	94	94
P_2 fin ray 2	152	168	176	179	171	167	—	170	184	187	200	187	189	180	178	(152–200)	141	148
Head depth	62	—	63	66	64	—	71	—	63	62	60	64	63	60	63	(60–71)	60	54
Head width	73	92	83	80	80	92	—	—	79	74	73	94	73	85	81	(73–94)	91	74
Snout length	53	51	51	60	51	45	58	56	55	53	51	54	55	57	54	(45–60)	56	47
Pigmented eye	42	45	39	41	47	46	40	43	46	47	49	47	48	50	45	(39–50)	36	40
Interorbit	11	11	12	10	8	8	10	10	10	9	8	11	8	9	10	(8–12)	11	8
Upper jaw	133	120	124	127	93	93	103	115	107	102	103	112	108	104	110	(93–133)	141	84
MP	9.3	8.0	9.2	10.4	9.4	8.4	9.6	9.5	—	9.2	9.0	7.9	10.8	10.6	9.3	(7.9–10.8)	>10.0	7.9
Sex	M	M	M	M	F	F	F	M	F	?	?	M	?	?			F	F

under the opercular flaps at the bases of this saddle. Faint rows of melanophores across dorsum between each of the 8 saddles. Clusters of melanophores scattered along flank. Small, irregularly shaped pink flecks scattered along dorsum. Eleven pairs of pink dots present on either side of body along anal fin base. Pink blotch present on upper one-third of right pectoral fin base, not present on left side. No pigment on belly. Melanophores scattered on head, most dense behind eye extending posteriorly to edge of preopercle. Melanophores present on interorbit, preorbit, suborbit, upper and lower lips, isthmus, lower branchiostegal membrane (few on upper membrane), chest, pectoral fin base, and operculum. Pink flecks present on operculum, preoperculum, snout, and upper lip (including fold above upper lip). Three pink dots present on anterior edge of lower lip. Iris pink. Cheek with 2 prominent pink horizontally elongate blotches; larger blotch posterior to eye (at level of pupil), smaller one below anterior edge of larger blotch, above maxillary. On right side of head this smaller blotch is narrower than on left side. Dorsal fin membrane between spines I–IV with a concentration of melanophores (Fig. 2) which form an ill-defined but prominent blotch (darkest between II and IV). Scattered melanophores present on most spines and rays of dorsal fin. Anal fin with a faint concentration of melanophores on membrane between spines and first ray. Scattered melanophores present on most rays. Scattered melanophores present on caudal fin, concentrated at center of base of fin. Pectoral fin unpigmented. Pelvic fin with few melanophores on bases of rays.

Paratype, USNM 221168, 36.0 mm SL, female. Color of freshly preserved specimen similar to holotype except generally less intensely pigmented. Lateral blotches similar on both sides; 1–6 inverted triangles, 7–8 horizontally elongate. Blotches 2, 3, 4, 6, and 7 with pink flecks within blotches. Pink blotch present on upper pectoral fin base of both sides. Eleven pairs of pink dots present along body at anal fin base. Left cheek with upper pink blotch broken into 2 smaller blotches. Lower blotch also broken into 2 separate blotches. Right cheek with blotch behind eye broken into 3 spots with no lower blotch present. Melanophores scattered over head although not as densely as in holotype. Lower jaw with melanophores broken into 4 bands with unpigmented areas between them. No black blotch on anterior dorsal fin.

Basic color pattern similar in all other specimens examined although intensity varies greatly. Rarely an individual has one of the black lateral blotches ill-defined or broken, giving the appearance of 2 proximal blotches. Live specimens show rust-colored instead of pink-colored flecks. These flecks turn pink upon fixation in formalin and fade entirely after a few months of preservation in isopropynol. Prominent, though variously shaped, rusty or pink flecks present on the cheek of all specimens.

Peritoneum of those specimens examined internally with scattered melanophores, flecks of pink and two black blotches (one on either side) in the shape of inverted triangles directly beneath and corresponding to the first lateral exterior blotches. One male (ANSP 143748) with melanophores covering belly and concentrated in a semi-circle in front of the genital area; no pigment on belly of other specimens. Black pigment at the corner of the mouth inside the lips of ANSP 143748.

Comparisons.—Of the western Atlantic species, *C. roseola* is most similar to *C. stephensi* with which it shares a short body and low meristic counts relative to other Atlantic species of *Chaenopsis* (Robins and Randall, 1965). *Chaenopsis roseola* differs from *C. stephensi* in a number of characters including pigment pattern, palatine tooth pattern, and some morphometric characters.

The color pattern of *C. roseola* (in preservative) differs from that of *C. stephensi* in that 8 instead of 6 lateral blotches are present. Robins and Randall (1965) indicate that 5 blotches are present along the side of the holotype of *C. stephensi,* but we count 6 faint blotches along the side. Unfortunately, the life colors of *C. stephensi* are unknown.

The palatine tooth row of *C. roseola* is composed of teeth of essentially two sizes, the anterior portion of the row being of moderately sized teeth with the posterior portion of small teeth. The palatine tooth row of *C. stephensi* is composed of 16 or 17 (some are broken) teeth which are irregular in size with large teeth interspersed throughout the row of otherwise small teeth.

Several morphometric differences exist between *C. roseola* and *C. stephensi* although these may not always be diagnostic when used alone, a situation common in chaenopsids (Stephens, 1963) including the genus *Chaenopsis* (Robins and Randall, 1965). Excluding characters which apparently vary allometrically (see below), *C. roseola* differs from *C. stephensi* in having a shorter predorsal length, a larger eye, and a deeper caudal peduncle (Table 2). Since only a single specimen of *C. stephensi* is known (a second is doubtful), establishment of morphometric variation in that species is presently impossible; reliable comparison of such characters must await the collection of more material of *C. stephensi.*

Chaenopsis roseola differs from the Arrowsmith Bank specimen (UMML 28601) identified as *C. stephensi* by Robins (1971) in number of vertebrae, number of dorsal fin rays, number of anal fin rays (Table 1), and number of blotches along the side (7 in UMML 28601) as well as several non-allometric morphometric characters including head length, head depth, predorsal length, caudal peduncle depth, and caudal peduncle length (Table 2).

Chaenopsis roseola differs from the other known western Atlantic *Chaenopsis* species principally in having a shorter body and fewer vertebrae, fin-

ray elements, and lateral body markings. *Chaenopsis roseola* as well as *C. stephensi* belong to the short-bodied species group as defined by Böhlke (1957b) and thus are allied with *C. coheni* and *C. deltarrhis* of the eastern Pacific.

Range and habitat.—The type-material of *Chaenopsis roseola* is from the northeastern Gulf of Mexico, from the head of the De Soto Canyon eastward and southward to the Florida Middle Grounds. Additional Gulf of Mexico specimens have been collected as far south as off the Tampa Bay area (see below). Two specimens referable to *C. roseola* have been collected from the Atlantic Ocean off North Carolina by D. J. Stewart.

Recently, the area adjacent to and just east of the northern rim of the De Soto Canyon has been trawled and dredged extensively; the samples taken were marked by abundant shell and rubble. This area, from which the majority of the specimens of *C. roseola* were captured, was examined during a 3-hour dive by the research submersible DIAPHUS during June 1978. Observations made during this dive by one of us (RLS), recorded on audiotape for later transcription, revealed a bottom with "windrows" of rubble and coarse shell hash. These were of about 1–3 m width, with intervening areas of silica sand, of about the same width. Numerous observations of small fishes, thought to be the pirate blenny, *Emblemaria piratula,* and *Chaenopsis roseola* (recorded as *Chaenopsis* sp.) were made. The fish were observed to dart to and from rubble and shell fragments, and to retreat backward into the cover when approached closely by the submersible. On several occasions the submersible was placed at rest on the bottom for more prolonged observation. Although slight protrusion of the head region of a chaenopsid was occasionally detected, this was never close enough to obtain a diagnostic photographic or videotape record. In addition, the pearly razorfish, *Hemipteronotus novacula,* was frequently noted projecting from burrows. The sand perch, *Diplectrum formosum,* was also frequently noted in this area.

Extensive dredge and trawl operations along the northeastern Gulf shelf show that these shell rubble areas form mosaics north and east of De Soto Canyon. Several previously unknown or poorly known species have been collected from this habitat with *C. roseola*. These include *Emblemaria piratula* (Chaenopsidae), *Gobulus myersi, Palatogobius paradoxus* (Gobiidae), an undescribed species of *Gillelus* (Dactyloscopidae), and two undescribed ophichthid eels (Ophichthidae).

Collection depths of *C. roseola* range from 33 to 64 m, but suitable habitat is present beyond this depth range. *Chaenopsis roseola* probably inhabits the entire lower shelf region of the northeastern Gulf where the preferred shell rubble patches exist, as well as the eastern continental shelf of the southeastern United States.

Etymology.—The name *roseola* is from the Latin *roseus*, rosy colored. This name is selected for the pink or rust colored flecks (in living adults) reminiscent of roseola or measles.

Discussion.—Stephens (1963) attributed the wide variation seen in morphometric characters in chaenopsids to four factors: 1) growth, 2) individual variation, 3) sexual dimorphism, 4) error in measurement. A fifth factor, shrinkage of specimens in preservative, may also account for some variation in measurements. The holotype of *C. stephensi* has apparently undergone some shrinkage since its description, as our measure of its standard length, 44.8 mm, is less than that given by Robins and Randall (1965), 45.8 mm. This further emphasizes the need of more material of *C. stephensi* before an adequate comparison with *C. roseola* can be made.

At least two morphometric characters vary allometrically in *C. roseola* (Table 2). Larger individuals have proportionately shorter pelvic fin rays and, at least among males, larger individuals tend to have proportionately longer upper jaws. Böhlke (1957b) discusses the allometry of the upper jaw in *Chaenopsis* and points out that the two species groups differ in the rate of change of the length of the upper jaw relative to the head length. In the short-bodied *coheni* group, the maxillary is longer at all stages of growth than in the long-bodied *ocellata* group. However, Stephens (1963) points out that the relative jaw elongation in the *coheni* group may be due to the increase in body elongation of the *ocellata* group. While in the male specimens of *C. roseola* the relative length of the upper jaw increases with growth, the opposite appears to be true for the four female specimens (although a good size range of females is lacking). Additional specimens are needed to determine the growth characteristics of the upper jaw in *C. roseola*.

Sexual dimorphism is subtle in *C. roseola*. Both sexes have low dorsal fins (Fig. 2) but males are distinguishable by a black blotch (which females lack) on the anterior dorsal fin. In *C. ocellata* the anterior dorsal fin mark (also present only in males) is used for display when defending territories (Robins *et al.*, 1959) and may serve a similar function in *C. roseola*. Robins and Randall (1965) describe the holotype of *C. stephensi* (presumably a female) as having a dusky area on the anterior part of the spinous dorsal fin. Females of *C. roseola* have no such pigment on the dorsal fin.

In the holotype of *C. stephensi* the second mandibular pore is closer to the first than to the third. In ten of the specimens of *C. roseola* the second pore is closer to the third than the first (MP index less than 10, Table 2). However, in three specimens the second is closer to the first (MP index greater than 10). This variation calls into question the use of this character for the delineation of related groups within the genus *Chaenopsis* (Böhlke, 1957b).

Chaenopsis stephensi was described from a single specimen apparently taken from Cubagua Island, Venezuela, at Allan Hancock station A28-39 at

a depth of 2 fathoms (Robins and Randall, 1965). However, in their remarks on the species, these authors implied some doubt as to the locality data: "Even if a locality error is involved, *stephensi* is unidentifiable with any Pacific species." This comment also reflected their assessment that although close to the Pacific *C. coheni,* their species was in fact distinct. Subsequently, Robins (1971) stated, in reference to this matter, that "Since *C. stephensi* belonged to a species group otherwise known from the Pacific shore of Central America and since the Allan Hancock collections encompassed both coasts, there was reason to doubt the origin of the holotype," but reported on a second specimen (UMML 28601) from Arrowsmith Bank off Yucatan, Mexico which verified the provenance of *C. stephensi.*

The taxonomic status of the Arrowsmith Bank specimen reported by Robins (1971) is unresolved. In some characters (predorsal length, eye size) it resembles *C. roseola.* In other characters (caudal peduncle depth) it more closely resembles *C. stephensi.* However, in many characters it is unique (e.g., number of vertebrae, dorsal rays, and anal rays, head length, head depth, upper jaw length, caudal peduncle depth). More material of this form is needed to resolve its status. Additional material from Venezuela is also needed to elucidate relationships within this distinctive sub-group of *Chaenopsis* in the western Atlantic.

Additional material examined.—Chaenopsis roseola: USNM 134923 (2, 29–33). 28°45′00″N, 85°02′00″W, off Cedar Keys, FL, 15 March 1885, about 64 m. FSBC 6567 (1, 22.2), 27°37′N, 83°58′W, off Tampa Bay, FL, 20 Nov. 1966, 55 m. FSBC 6889 (1, 34.6), 27°37′N, 83°58′W, off Tampa Bay, FL, 2 Aug. 1967, 55 m. Uncatalogued (1, 31.3), R/V EASTWARD cruise E5-77, sta. 11, 34°34.2′N, 75°13.4′W, off North Carolina, 3 Aug. 1977, 33 m. Uncatalogued (1, 26.5), R/V EASTWARD cruise E5-77, sta. 19, off North Carolina. *Chaenopsis stephensi*: LACM 20157, holotype, Cubagua Island, Venezuela, 10°49′25″N, 64°16′00″W, 15 April 1939. 2 fathoms (3.7 m). *Chaenopsis* sp. (*stephensi* of Robins, 1971): UMML 28601, Arrowsmith Bank, off Yucatan, Mexico, 21°05′N, 86°31′W, 20 Aug. 1970, 275 m.

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